

My name is Joel Garlic-Miller, and this is My Life, Wildlife. I am a wildlife biologist. I work in the marine mammals management program in here in Anchorage, Alaska. I am a walrus biologist. I've been working on walrus for about 25 years on conservation and management issues here in Alaska. I am an import from Canada. I was born in United States and as a U.S. citizen, but moved at very early age to Winnipeg, Manitoba, Canada. I knew at a very early age, I had great fascination with animals and wildlife and avid outdoorsman and growing up. Particularly with fisheries, I always sort of thought I would be a fisheries biologist. I had a fantastic man, I worked for Dr. Rob Stewart Department of Fisheries and Oceans. As a young man, I got a summer field job with him setting up all of his field work across the Arctic on studying walrus and belugas and seals. My journey to Alaska, I went, I was presenting some of my results at a marine mammal conference in Galveston, Texas. I was approached by some Fish and Wildlife Service biologists from Alaska. I had never been to Alaska. They encouraged me to apply. I competed for a job, entry level position here in Alaska 1994, and the rest has been history.

The animal, of course, is utterly fascinating. They're just as strange, uniquely adapted species. They occupy some of the most remote regions of this planet out in the sea ice offshore, where they rest on the sea ice and dive into the bottom where they feed their massive and intelligent and they have all sorts of advanced behavior and social dynamics, and things like that. Also, I think what really sort of got me where I am today was the understanding that Aboriginal communities in Canada and here in Alaska, the Inuit, Eskimos, have a great cultural and subsistence relationship with these animals.

So I would spend four months a year in living in hunting camps with walrus hunters and jump in a boat, and we'd go out and they'd harvest and then they'd help me do things like trying to walrus and measure them and collect samples. They were very patient with me. Summertime in the Arctic field camps, I mean, just joy, freedom. For people are happy, working hard and putting food up walrus and fish and caribou. So it's a time of frenetic activity but I think of great joy as well. I was really honored to be part of that. When you find a group of walrus, you sometimes, you go out for more than 20 hours you know long field and there's this Arctic summer, there's no nightfall you could be doing this work at any time of the day. But just navigating through the ice pack, which is you know, full of things like polar bear, whales, also the Arctic birds and just fantastic and then try and finding these herds of walrus on scattered ice flows. Sometimes the concentrations extend many, many miles of walrus, all in this in this one region. And oh my goodness, just some of the most stunning beautiful lighting conditions out in this still Arctic, sea ice, and all the migrating marine mammals and birds in the region. It will leave anybody in awe, it never gets old.

Walrus are an amazingly social and intelligent animal. They forage on the shallow waters of the Bering/Chukchi Sea. They specialize predators of clams and other invertebrates they have as you may recall, this big face of whiskers, these whiskers are highly innervated and they can drop down to the bottom, thick sediments where you can't see anything and they haven't had these tactile vibrissae that they can route around in the bottom and find clams and other prey species. They can differentiate between a nickel and a dime at the bottom of the pool while blindfolded. That's how sensitive their tactile senses are. So when they when they find clams or other invertebrates, they have this giant

tongue which they can drop or express, and they can jet water like a hose. What this does for them at the bottom of the ocean is they can quickly excavate deeply bedded clams and suck them out. They don't masticate they don't chew clams or break the shells, they take them into their mouth. And they can create negative pressure quickly break the abductor muscle suck the meat out, spit the clam out in a matter of seconds. Walrus are also thought to be part of, they're sort of gardeners and as they as I mentioned, they route around the bottom of the ocean. They pull up all these sediments and so they also sort of improve nutrient flow and all sorts of things. So they they're pretty what we call a key ecological species up here, a keystone species. They're very attentive parents, they have very low reproductive rates, but they invest a lot in maternal investment care and feeding of the calf that which can accompany mom for up to two or three years. So the survival rates of calves are pretty good. Walrus are a big critter, and there is what we call sexual dimorphism. So the male's, bulls are maybe a third bigger than the females. Both have tusks. But these males, they can get close to 3,000 pounds. They're 11 feet long. They're enormously have enormous girth. Of course, the develop these just massive canine teeth, the tusks which can extend three feet long. They're not a predator of typically of mammals and things like that. So they're not going to be tracking you down or anything, but of course, they are well equipped for defense with their mass and their tusks. If you piss them off, they will respond. Particularly the younger bulls can do all sorts of bluff charges. So if you're in a small boat trying to study them, we've had, they've tried to certainly try to intimidate us. They'll huff and puff, started slashing, things like that. So they're, they're the ones that we try to avoid. Walrus generally prefer sea ice habitats, they move around, depending on where the sea ice is. There's a seasonal and inter annual component. So it's difficult sometimes to predict and find them.

In the course of my career, we've seen a pretty dramatic decline of Arctic sea ice, particularly in the summer season. So over the past, I guess, now about 12 or 15 years, we're starting to see late fall summer season where the sea ice retreats North off of the continental shelf waters into deep, abysmal Arctic Basin waters where walrus can no longer stay on the ice and dive to the bottom, it's just too deep for them. So when the ice retreats, typically now, late August, early September, out beyond the shelf walrus migrate on mass to coastal areas, we call them haul outs where, where they aggregate in very large numbers. And this is a phenomenon that when I first started here in the early 90s, and into the mid 2000s, we didn't see. Occasionally a walrus was reported on the coast, but now it's a fairly regular occurrence. So this is really sort of shifted our and our focus a lot of our research and management activities. Because they've formed these dense, dense herds and they're mixed herds with small calves and things like that. They can become very vulnerable to disturbance events like airplane overflights, or ship traffic. Even natural things like polar bear predation, can trigger kind of a mass stampede and result in injuries and mortalities. So over the past decade, a lot of our management efforts have been focused on trying to mitigate to the extent practicable, at least human caused disturbances. So we do a lot of outreach communities, aircraft, shipping companies about trying to give walrus their space and let them do their thing while they're stuck on shore.

In Alaska, and in Chukotka , Russia, the Pacific waters population is a resource of enormous economic and cultural importance to coastal native communities. People have been living continuously occupying these areas for 1000s and 1000s of years and their whole culture is dependent on marine mammal hunting. That's who they are. The Fish and Wildlife Service actually has a really neat co management relationship with Alaska Natives, specifically for walrus management. So there's like 20 different tribes

in Alaska. Walrus hunting communities that have tribal membership in the Eskimo walrus commission. They have a structure with the chairman. We meet annually. We collaborate on a wide variety of projects, including subsistence harvest monitoring. They help us in the communities hire local people to collect samples and collect data. There's a great conservation ethic and a lot of these communities. So trying to hear and partner with those groups is, I think, going to be critically important for the future of this species. I got here on a path of adventure. When I first started doing the work in our Arctic, Canada, I never, it wasn't part of a grand plan to end up where I am today, but it has been just the path that I've followed. I surely do feel blessed having had the opportunities that I've had doing this work. We're seeing massive changes in the Arctic ecosystem, massive changes for walruses, changes in habitat use patterns, there's big conservation issues, but the future of the walrus has not yet been written. I mean, they are things that I truly believe that we can and should do that will help this species adapt to these climate changes. So some of the work that we're doing, trying to ensure that harvest levels remain sustainable, trying to track population current trends and tracking where walruses and new habitat areas are forming. Then working with that information to develop appropriate mitigation measures to protect these essential haul outs. I think that those efforts, it's not a total loss, I think if we're able to do some of that, that they'll have some real positive benefits on the future of this species here in Alaska. It's very gratifying to be able to work on something that has meaning for wildlife species and the ecosystems that we all inhabit.

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This has been my life wildlife, a production of the U.S. Fish and Wildlife Service, Alaska Region, Office of External Affairs, producers, Lisa Hupp, and Kris Pacheco, produced in story edited by David Hoffman for citizen racecar audio editing, sound design, and original music by Garrett Tiedemann. Artwork by Michelle Lawson. In Alaska, the employees of the U.S. Fish and Wildlife Service are shared stewards of world-renowned natural resources, and our nation's last true wild places. The lands and waters of this place we call home, nourish a vast and unique array of fish, wildlife and people. Our hope is that each generation has the opportunity to live with live from discover and enjoy the wildness of this awe-inspiring land and the people who love and depend on it.